

ESWT - large focus/low energy density versus small focus/high energy density using the same total energy delivered (mJ): evaluation of Results on calcific tendinitis of the shoulder.

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Device and producing company:

Piezoson 300 - WOLF

Introduction:

We want to verify the importance of total energy delivered through the comparison of different protocols varying the focus dimension and energy density with a stable value of total mJ emitted

Methods:

The treatments were carried out with Piezoson 300 from WOLF, a focused piezoelectric generator with three different focal dimensions. In this study we compared two groups of patients: each patient received 4 applications, 2000 shock waves/session. – First group: 37 patients treated with large focus and low energy density: 0,06 mJ/mm² – second group results on more than 50 patients using small focus and high energy density: 0,18 mJ/mm²

Results:

We are checking the patients and the results will be presented during the meeting.

Discussion:

Last year we tried to verify the results obtained using different focal dimensions, with the same energy density. We could not respect the established protocols because the pain of patient was too much when using a large focus with high energy density.

The results obtained, with the first used protocols, suggested a deeper analysis about the importance of total energy delivered in ESWT versus energy density and focal dimension.

The effect of shock waves is due to the combination of: the pressure peak (MPa), the energy density (mJ/mm²), the focal dimension and the total energy delivered (mJ). Therefore we continued the experimental study and we decided to compare the results obtained previously with a new group of patients treated with a large focus and low energy density at a specific level of total energy delivered.

Conclusion: Preliminary results seem to confirm a strong dependency between the efficacy of ESWT and the total energy emitted. We are waiting to be able to evaluate the completeness of data for a final conclusion to be presented at the Congress. It is necessary to study more patients because the aim is to compare the results of a large focus and low energy density with a small focus and middle density of energy : for this reason our study is again a project for the future.